

REMARKS

This application has been reviewed in light of the Office Action dated March 15, 2006. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested.

Claims 1, 2 and 5-11 are pending. Claims 1 and 11 are in independent form.

Claims 1, 2, 6-8 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Application Laid-Open No. 9-226185 (*Takayanagi*) in view of U.S. Patent No. 6,481,905 (*Day et al.*).

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takayanagi* in view of *Day et al.*, and further in view of U.S. Patent No. 5,690,437 (*Yanagisawa et al.*).

Claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takayanagi* in view of *Day et al.*, and further in view of U.S. Patent Application Publication No. 2003/0067507 (*Anzai et al.*).

Applicant respectfully traverses these rejections.

Independent Claim 1 recites, *inter alia*, that a number of printing elements of a printhead to be used in a printing operation for one scan of a carriage, which is controlled by a control means, satisfies a condition such that a sum of a driving current required for driving the number of printing elements and a driving current supplied to a DC motor for accelerating the carriage is equal to or lower than a capacity of a power source for supplying electric power to a printing apparatus. Independent Claim 11 recites, *inter alia*, a similar feature.

Applicant submits that none of the cited art teaches at least this feature of Applicant's claimed invention.

Takayanagi relates to a recording method and recording device therefor, including, for example, a technique for dividing an area scanned by a printhead into plural subareas, and counting a number of printed dots corresponding to each subarea. The Office Action (pages 2 and 3) cites paragraph [0005] of the computer translation of *Takayanagi* as teaching the above-noted feature of Applicant's claimed invention. Paragraph [0005] reads as follows:

[0005] The demand of the above increases of a power supply originates in increase of the power source altogether needed for the record produced with expansion of the recording width of a recording head. That is, when a record element number increases, it is for the record element number which must be driven in unit time amount to increase. For example, power source needed when recording the image of the concentration of an average of Z (%) by the ink jet recording head of n nozzle by regurgitation frequency f [Hz] and the driving pulse width of face T (sec) (Pn) $P_n = (I - V - n) \cdot (T - f) \cdot Z$ (1) It becomes. Here, the current value of the rectangular pulse current to which I flows for each record component, and V are the current potential value. (sic)

Nothing in paragraph [0005], or in the remainder of *Takayanagi*, is understood to teach or suggest the above-noted feature of Applicant's claimed invention.

Further in this regard, the Office Action (page 3) concedes that *Takayanagi* does not teach a DC motor for driving the carriage. If *Takayanagi* does not teach a DC motor for driving the carriage, *a fortiori* that document does not teach that a number of printing elements of a printhead to be used in a printing operation for one scan of a carriage, which is controlled by a control means, satisfies a condition such that a sum of a driving current required for driving the number of printing elements and a driving current supplied to a DC motor for accelerating the carriage is equal to or lower than a capacity of a power source for supplying electric power to a printing apparatus.

Day et al. relates to a printer with failsafe features. *Day et al.* mentions the ability to print during acceleration and deceleration, although image quality is understood to deteriorate if printing is performed during acceleration of the carriage. Further, *Day et al.* mentions DC motors. In that regard, *Day et al.* states:

Should the mechanism jam or encounter a higher resistance than normal, the drive motor current requirement for the motors will rise. If boundaries are set that encompass the normal operating currents, then currents outside this area may be detected as a fault condition and the appropriate action taken to stop printing. (Col. 8, lines 13-18.)

However, neither the above-quoted portion nor any other portion of *Day et al.* is understood to teach or suggest that a number of printing elements of a printhead to be used in a printing operation for one scan of a carriage, which is controlled by a control means, satisfies a condition such that a sum of a driving current required for driving the number of printing elements and a driving current supplied to a DC motor for accelerating the carriage is equal to or lower than a capacity of a power source for supplying electric power to a printing apparatus. It is also noted that the Office Action does not cite *Day et al.* as teaching this feature of Applicant's claimed invention.

Since neither *Takayanagi* nor *Day et al.*, whether taken singly or in combination (even assuming, for the sake of argument, that such combination were permissible), contains all of the elements of independent Claim 1 or 11, those claims are believed allowable over those documents.

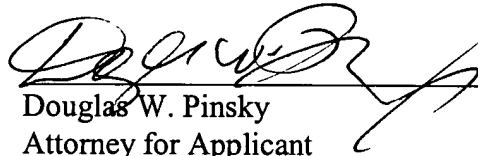
A review of the other art of record, including *Yanagisawa et al.* and *Anzai et al.*, has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. These claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from independent Claim 1 and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our Washington office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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